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Valvular Heart Disease

TRANSCATHETER VERSUS SURGICAL AORTIC VALVE REPLACEMENT IN END STAGE RENAL DISEASE: AN ANALYSIS OF THE NATIONWIDE INPATIENT SAMPLE DATABASE

Moderated Poster Contributions
Valvular Heart Disease Moderated Poster Theater, Poster Hall B1
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Background: Transcatheter aortic valve replacement (TAVR) was approved in 2011 in the US for replacement of the aortic valve in patients deemed inoperable due to prohibitive surgical risk. End-stage renal disease (ESRD) patients may represent a particularly high-risk group for such procedures.

Methods: We used the Nationwide Inpatient Sample (NIS) database and ICD 9 codes, to evaluate in-hospital all-cause mortality, total costs related to hospitalization and mean length of stay for ESRD patients treated with TAVR versus (surgical aortic valve replacement) SAVR. To adjust for multiple confounders, we employed a propensity score-adjusted model and all components of the Charlson comorbidity index.

Results: Among 404 ESRD patients treated with TAVR (n=53) or SAVR (n=351), 52 (12.9%) patients died during hospitalization. TAVR was reserved largely for patients with a higher burden of co-morbidities. In-hospital all-cause mortality with TAVR was 9.4% vs. 13.3% for SAVR (p=0.43). Mean total hospitalization cost was lower for TAVR ($292,766) compared with SAVR ($387,785) (p=0.03) and this difference persisted in the propensity score-adjusted analysis. Median length of stay was shorter with TAVR in the unadjusted (10 days vs. 15 days, p=0.005), as well as in the adjusted model (Table 1).

Conclusion: In the first year after regulatory approval in the US, TAVR in ESRD patients had comparable in-hospital mortality, fewer hospitalization costs and reduced length of stay compared to SAVR.

Table 1

	Pre-Match (n=404)			Propensity Score Matched (n=106)		
	TAVR(N=53)	SAVR(N=351)	P-value	TAVR(N=53)	SAVR(N=53)	P-value
Baseline Characteristics						
Mean Age	76.75	62.3	<0.001	76.75	76.51	0.88
Women(%)	43	32	0.09	43.39	41.51	0.84
Caucasian(%)	58.5	51	0.3	58.49	60.38	0.84
CHF(%)	71.69	47.58	0.001	71.69	73.59	0.83
PVD(%)	11.32	11.39	0.98	11.32	11.32	1.00
Stroke/TIA(%)	13.2	13.96	0.88	13.21	13.21	1.00
Outcomes						
Death	9.43	13.39	0.43	9.43	8.87	0.44
Total Hospitalization Cost ($)	292,766	387,785	0.03	292,766	373,393	0.03
Median Length of Stay (Days)	10	15	<0.001	14	35	<0.001